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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/028,129	12/20/2001	Christine J. Landry-Coltrain	83466LMB	2382

7590

08/17/2004

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EXAMINER

SCHWARTZ, PAMELA R

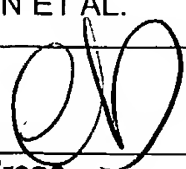
ART UNIT

PAPER NUMBER

1774

DATE MAILED: 08/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/028,129	LANDRY-COLTRAIN ET AL.	
	Examiner	Art Unit	
	Pamela R. Schwartz	1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 2/23/04.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) 26-28 and 43 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25, 29-42, 44 and 45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-45 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>3</u> . | 6) <input type="checkbox"/> Other: _____ |

1. This office action is intended to replace the office action of July 29, 2004.
2. The election of species requirement is modified as follows: species a) elements that must have particles in the topmost layer (claims 3-11, 15-16, 44 and 45) and species b) elements that are substantially free of particles in the topmost layer (claims 26-28). The remainder of the article claims are generic because they may or may not contain particles in the topmost layer, i.e. claims 1, 2, 12-14, 17-25 and 29-42. Since applicants' original election was of elements with particles in the topmost layer, the examiner will examine claims 1-25, 29-42, 44 and 45 that include all of the claims previously elected and examined as well as the generic claims. Claims 26-28 and 43 to the non-elected species and the non-elected invention are withdrawn from consideration. If the elected species is found to be allowable, the non-elected species will be examined and the method claim will be rejoined for allowance if commensurate in scope with an allowed article claim.
3. Claims 1, 3, 4, 12-14 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-11 and 1-9 of U.S. Patent No. 6,528,147 and 6,475,602 respectively for reasons of record and for reasons given below. It is noted that in the patents, the substrate may be paper and therefore may be an ink receiving layer, and that it would have been obvious to one of ordinary skill in the art to include porous polyester particles as the porous polymeric particles of the patents since when this term is read in light of the specification, it includes polyester particles. Although applicants indicated that the response included an argument related to this rejection, the examiner was unable to identify an argument

in applicants' response that was related. In addition, although applicants state that they have included a terminal disclaimer directed to these patents, none was found in the file. Therefore, the rejection has been repeated.

4. Claims 1-25, 29-42, 44 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda et al. (Japanese Kokai Patent Application No. Hei 7[1995]-137432) for reasons of record and for reasons given below. The reference discloses an ink jet recording paper having an ink absorbing layer coated on a support, the ink absorbing layer (the top most layer) containing porous polyester resin particles ([0005] - indicates appropriate paragraph of prior art translation supplied by applicants). The support may be paper which would be ink absorbent [0025]. Therefore the support may be considered to be an ink receiving layer. The volume average particle diameter is 0.5-100 microns. The examiner cannot patentably distinguish 0.5 microns from less than 0.5 micrometers in the absence of a showing of the criticality of this feature. The examiner has considered applicants' showings but was unable to identify showings that demonstrated the criticality of particle size by varying only this feature of the recording medium [0006].

The support, which is an ink receiving layer, may include inorganic or organic fillers and sizing agents [0025]. The reference discloses that sizing agents include polyvinyl alcohol, but is silent with respect to inorganic and organic fillers [0003]. However, the filler particles are conventional in the art and include those recited by applicants. The reference discloses use of underlayers or specialty supports in order to obtain a smooth surface. Normally, smoothness and gloss are related characteristics.

It is also well known in the art to form or treat the ink receiving layer in a way that maximizes gloss when a glossy surface is desired. For example, it is well known to calendar or to cast coat to increase gloss. It would have been obvious to one of ordinary skill in the art to use conventional formation techniques or treatments the surface of the medium of the reference in order to obtain a desired level of gloss.

The reference discloses the formation characteristics of the polyester particles in paragraphs [0008]-[0013] including the use of fumaric or maleic acid in forming the polyester, inclusion of sulfonated monomers, number average molecular weight of the polyester, and the content of ionic groups. The particles may be in a binder including polyvinyl alcohol and other known binders [0023] and may be used in the instantly claimed proportions [0024]. Based upon the broad disclosure of the reference, inclusion of any conventional binder materials would have been obvious to one of ordinary skill in the art in the absence of a showing of unexpected results. Divinylbenzene may be used as a monomer to crosslink the polyester resin of the reference [0013]. Layer thicknesses are disclosed [0024] and it is also obvious to one of ordinary skill in this art to determine layer thicknesses and thickness of the medium overall in order to obtain necessary levels of ink absorption and required levels of machine feedability and handling characteristics of the media.

For claim 2 and claims dependent therefrom that require a layer other than the topmost layer to include porous polyester particles, the examiner is unable to structurally distinguish a "single" layer from a topmost layer and an under layer when the layers may have the same composition (as is the case with the instant claims),

because in this art the term layer is frequently used by those of ordinary skill in the art to refer to one or more layers, and because a layer may be coated in several coating steps in order to achieve desired layer thickness. It is also noted that the coating of Maeda et al. may contain binders [0023] and inorganic or organic particles as instantly claimed.

With respect to claims directed to inclusion of a layer comprising particles of mean diameter of greater than 0.5 micrometers, there are no limitations in these claims that distinguish one layer from the other, i.e., the layers may still have the same composition. In addition, while claim 41 sets forth a thickness for the topmost layer, the thickness limitation is met by subdividing the layer of the prior art. There are no claimed compositional or structural features to distinguish applicants' two layers from a single layer. In the absence of such features, these claims are obvious over Maeda et al. With respect to the limitations directed to particles having various mean diameters of greater than and/ or less than 0.5 microns, the claim language is "open." Therefore, the particles of the reference may be subdivided into different size pools of porous polyester particles, some of which will have mean diameters of less than 0.5 microns and others which will have mean diameters of greater than 0.5 microns.

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-17, 19-25, 34, 35, 38, 44 and 45 are rejected under 35 U.S.C. 102(b) as being anticipated by Okumura et al. (5,360,780). The reference discloses an image-

receiving sheet for thermal transfer printing comprising an intermediate layer and an image receiving layer (see the abstract). The intermediate layer contains thermoplastic resin fine particle aggregates some of which are polyester and may contain a sulfonic acid group (col. 6, lines 31-35). The aggregates may also be present in the image-receiving layer col. 6, lines 20-30). The particle aggregates are in the size range of 0.2 to 20 microns (col. 9, lines 7-19). The particles are coated with binder which may be polyvinyl alcohol. (see col. 9, lines 7-40). The reference broadly discloses the use of polyester binder but does not specifically disclose inclusion of a sulfonated polyester binder. However, it would have been obvious to one of ordinary skill in the art to use any conventional binder material in the absence of a showing of unexpected results. Thickness or coating weights are set forth at col. 9, line 64 to col. 10, line 6 and col. 10, lines 50-56.

6. Claims 1-17, 19-25, 33-39, 41, 42, 44 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okumura et al. (5360780) for reasons set forth above and for the following reasons. With respect to percentages of particles in the layers, the reference discloses at col. 9, lines 42-49, preferred ratios of binder to thermoplastic resin fine particles of 0.01 to 200%. Since these would normally be the main components in the coating layer, it would have been obvious to one of ordinary skill in the art to include a high percentage of particles as recited by claims 36 and 37. With respect to the claims directed to two layers including particles, the particles of the reference may be present in the intermediate and ink-receiving layers and particles with mean diameters above and below 0.5 microns are inherently present in the particles if

the average particle size is near 0.5 microns. It would have been obvious to one of ordinary skill in the art, with the guidance set forth in the reference, to determine coating thicknesses in order to obtain desired ink absorption properties and coating characteristics. Support materials are set forth at col. 13, lines 59-64.

7. Applicant's arguments filed February 23, 2004 have been fully considered but they are not persuasive. Applicants argue that "Maeda et al. fails to mention the use of particles of diameter less than 0.5 micrometers...". However, Maeda et al. disclose use of particles with mean diameter of 0.5 microns. Such particles must inherently include particles of diameter less than 0.5 microns and may include a majority of particles of diameter less than 0.5 microns since the mean is merely an average. The mere fact that Maeda et al. does not discuss gloss does not overcome the rejection. The fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

Maeda et al. states that if the particles are too small, binding of the particles may be difficult. However, Maeda et al. does not state, as suggested by applicants, that particles below 0.5 microns are not useful as additives in coating materials.

Applicants also argue that they have demonstrated surprising results with respect to gloss. The Examiner has considered the showings pointed out by applicants but has not found them to be persuasive. First, the results in the specification are for one specific material rather than the broad category of polyesters that is now claimed.

Second, comparisons are not with the applied art or with a material having a particle size of 0.5 microns. Third, criticality has not been demonstrated for applicants' end point. The controls were not comparable and not as close as the applied art. Fourth, a different technique was used to emulsify the comparisons (see Table 3). No reason was provided for this difference.

Table A is unpersuasive for reasons discussed above. As previously stated, control examples C-1 and C-2 use particles that are emulsified by a different technique than applicants use for the examples representing the invention. A direct comparison cannot be made effectively.

Leon's declaration is also unpersuasive. With respect to the obviousness of using small particles to enhance gloss, Leon makes several arguments. First is that the small particles are "more prone" to flocculation and that clusters of small particles impart features of larger particles. This argument actually supports the examiner's position that small particles permit the surface to be smoother and therefore, for the medium to have higher gloss. In addition, since small particles do not necessarily flocculate, this reason is unpersuasive. Next Leon argues large particles are "less prone" to mudcracking. Once again, since mudcracking does not necessarily occur with small particles the argument is unpersuasive. Finally, Leon argues that smaller particles often require more binder to be used and that this may decrease ink absorption. It is unclear from the Declaration how this impacts gloss.

Leon argues that Maeda et al. teaches away from particles of less than 0.5 microns. But Maeda et al. disclose particles of 0.5 microns explicitly and this size has not been patentably distinguished from <0.5 microns.

Leon also comments that the Examiner used calendaring as an example of a smoothing technique that is known in the art and that this could crush porous particles. This was mentioned by the examiner with respect to claim 48 to demonstrate that there are well known means to smooth the surface thereby increasing gloss. Calendaring was merely an example of one conventional means. Cast-coating is another technique that will smooth the surface without crushing pressure. These are all well known to those of ordinary skill in the art.

Leon also argues that one of ordinary skill in the art will not be able to calculate the acid number without knowing the extent of the formation reaction. The Examiner also will not be able to determine this property in any piece of prior art unless it is specifically set forth. That being said, reactions do not normally reach their theoretical maximum. One of ordinary skill in the art could run the reaction of the reference to determine the likely acid number. The examiner is not in a position to do this. Reliance on acid number for patentability is unpersuasive because it would have been obvious to one of ordinary skill in the art to control conventional reaction parameters such as temperature, pressure, time, and pH. See for example [0019] of the reference.

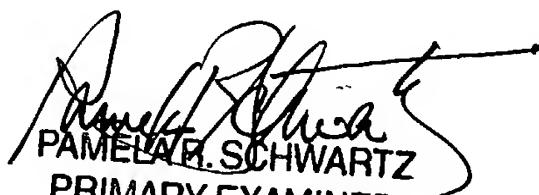
Finally, the examiner has not suggested taking a cut of Maeda's distribution. Division of particles into components can result in broadening rather than narrowing distributions of components.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pamela Schwartz whose telephone number is (571) 272-1528.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye, can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PRSchwartz
August 13, 2004


PAMELA R. SCHWARTZ
PRIMARY EXAMINER